

Catalog No.: RP01955 **Recombinant**

Species	Gene ID	Swiss Prot
Human	3934	P80188

C-His

Synonyms
LCN2; HNL; NGAL; Neutrophil gelatinase-associated lipocalin; NGAL; 25 kDa alpha-2-microglobulin-related subunit of MMP-9; Lipocalin-2; Oncogene 24p3; Siderocalin; p25

Source	Purification
HEK293 cells	≥ 95 % as determined by SDS-PAGE.

21.39 kDa 20-25 kDa


< 0.01 EU/μg of the protein by LAL method

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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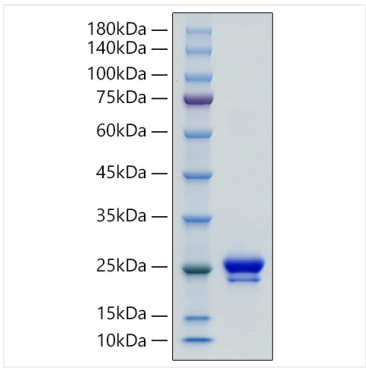
Lipocalin-2, also known as Neutrophil Gelatinase-Associated Lipocalin (NGAL), was originally identified as a component of neutrophil granules . It is a 25 kDa protein existing in monomeric and homo- and heterodimeric forms, the latter as a dimer with human neutrophil gelatinases (MMP-9) . Its expression has been observed in most tissues normally exposed to microorganism, and its synthesis is induced in epithelial cells during inflammation . Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis . Studies indicate that Lipocalin-2 binds a bacterial catecholate siderophore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant . The bound ferric enterobactin complex breaks down slowly in a month into dihydroxybenzoyl serine and dihydroxybenzoic acid (DHBA). It also binds to a ferric DHBA complex with much less Kd values (7.9 nM) . Secretion of Lipocalin-2 in immune cells increases by stimulation of Toll-like receptor as an acute phase response to infection. As a result, it acts as a potent bacteriostatic reagent by sequestering iron . Moreover, Lipocalin-2 can alter the invasive and metastatic behavior of Ras-transformed breast cancer cells in vitro and in vivo by reversing epithelial to mesenchymal transition inducing activity of Ras, through restoration of E-cadherin expression, via effects on the Ras-MAPK signaling pathway .

Recombinant Human Lipocalin-2/NGAL/LCN2 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gln21-Gly198) of Human Lipocalin-2/NGAL/LCN2 (Accession #NP_005555.2) fused with a His tag at the C-terminus.

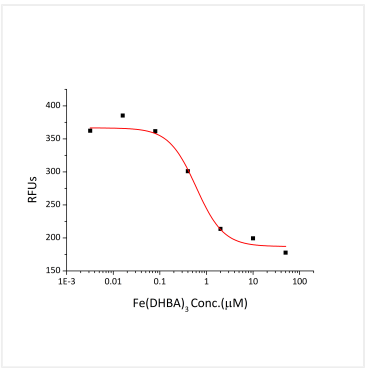
Measured by its ability to bind Iron(III) dihydroxybenzoic acid [Fe(DHBA)3]. The binding of Fe(DHBA)3 results in the quenching of Trp fluorescence in recombinant mouse Lipocalin-2. Recombinant human Lipocalin-2 can bind $>0.60 \mu\text{M}$ of Fe(DHBA)3.

Store at -20°C. Store the lyophilized protein at -20°C to -80°C up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.
Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human Lipocalin-2/NGAL/LCN2 Protein was determined by SDS-PAGE under reducing .



Measured by its ability to bind Iron(III) dihydroxybenzoic acid [Fe(DHBA)₃]. The binding of Fe(DHBA)₃ results in the quenching of Trp fluorescence in recombinant mouse Lipocalin-2. Recombinant human Lipocalin-2 can bind >0.60 μM of Fe(DHBA)₃.